What is claimed is:

1. A dry gray-scale image processor which extracts unexposed films one by one and carries them to an exposure unit, radiates a laser beam comprising an image data signal onto the film as it passes said exposure unit, and develops the exposed film by heating it at a heating unit, wherein

an interval between an exposure position of said exposure unit and a heat start position of said heating unit is shorter than the length of the film in the delivery direction, and the exposure process and heating process are performed in parallel simultaneously.

2. A dry gray-scale image processor as described in claim 1, wherein said heating unit comprises a film passage, provided between heating blocks which are arranged on either side of said film.

3. A dry gray-scale image processor as described in claim 1, wherein said heating unit is set so that the temperature distribution along the width of said film and the heating distance along the delivery direction of said film are uniform.

4. A dry gray-scale image processor as described in claim 2, wherein said heating unit is set so that the temperature distribution along the width of said film and the heating distance along the delivery direction of said film are uniform.

5. A dry gray-scale image processor as described in claim 1, wherein said film passage has a large curvature with respect to the emulsion face side of said film.

6. A dry gray-scale image processor as described in claim 2, wherein said film passage has a large curvature with respect to the emulsion face side of said film.

7. A dry gray-scale image processor as described in claim 3, wherein said film passage has a large curvature with respect to the emulsion face side of said film.

8. A dry gray-scale image processor as described in claim 4, wherein said film passage has a large curvature with respect to the emulsion face side of said film.

9. A dry gray-scale image processor as described in claim 5, wherein the film passage comprises two fluororesin coated opposing faces having a constant width therebetween.

10. A dry gray-scale image processor as described in claim 6, wherein the film passage comprises two fluororesin coated opposing faces having a constant width therebetween.

11. A dry gray-scale image processor as described in claim 7, wherein the film passage comprises two fluororesin coated opposing faces having a constant width therebetween.

12. A dry gray-scale image processor as described in claim 8, wherein the film passage comprises two fluororesin coated opposing faces having a constant width therebetween.

13. A dry gray-scale image processor as described in claim 1, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

14. A dry gray-scale image processor as described in claim 2, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

15. A dry gray-scale image processor as described in claim 3, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

16. A dry gray-scale image processor as described in claim 4, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

17. A dry gray-scale image processor as described in claim 5, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

18. A dry gray-scale image processor as described in claim 6, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

19. A dry gray-scale image processor as described in claim 7, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

20. A dry gray-scale image processor as described in claim 8, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

21. A dry gray-scale image processor as described in claim 9, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

22. A dry gray-scale image processor as described in claim 10, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

23. A dry gray-scale image processor as described in claim 11, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

24. A dry gray-scale image processor as described in claim 12, wherein a density level detecting unit is provided near the exit of said heating unit, and said exposure unit is controlled by feedback.

25. A dry gray-scale image processor as described in one of claims 1 to 24, wherein flatness regain rollers are provided at the exit of said heating unit with a cooling region therebetween.